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STEUBING AND MCGUINESS & MANARAS LLP
125 NAGOG PARK
ACTON, MA 01720

EXAMINER
REILLY, SEAN M

ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>29 August 2005</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-50</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-50</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☒ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

A new Examiner has been assigned to this application.

This office action is in response to Applicant's request for request for continued examination on 8/29/05. Claims 1-50 are presented for further examination.

Priority

1. Applicant claims priority to provisional application 60/212,979, filed 6/21/2000.

2. The effective filing date for the subject matter defined in the pending claims in this application is 6/21/2000.

Information Disclosure Statement

3. It is noted that the Applicant failed to submit an IDS.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1-4, 9-10, 12-20, 25-26, 28-37, 39, 41, 44-47 are rejected under 35 U.S.C. 102(a)

as being anticipated by John et al. (XNAMI – An eXtensible XML-based paradigm for

Network and Application Management Instrumentation; hereinafter John).

It is noted for the record that the John reference was previously cited in PTO-892 as

document U, on 9/30/2003.

With regard to claims 1, 3-4, 9, 17, 19-20, 25, 33, and 36-37 John disclosed a method for

controlling a data forwarding service in a network device comprising a data forwarding device,

comprising the steps of:

Receiving at the network device (e.g. a router, see Introduction Col 1), a document

written in accordance with a markup language (description in XML of new objects, pg 5 Col 2

bullet number 1 and pg 7 last ¶ Col 1 – discussion of SET commands to add new objects) and a

corresponding document definition (XML DTD, pg 4, Col 1), wherein the document describes

the data forwarding service (e.g. routing functionality for a router);

Parsing by the network device the received document in accordance with the

corresponding document definition, wherein the parsing determines at least one parameter

describing the data forwarding service (pg 7 Col 1 last ¶, parsing description of new objects); and

parsing from the document an identifier corresponding to the service (e.g. Figure 7, MIB

object name)

Executing the data forwarding service (the associated object instances for the desired

functions; e.g. routing in the case of a router, see Introduction Col 1, also note the device may

forward any monitoring information, see for instance pg 8, Col 2) on the network device upon

completion of the parsing, in accordance with the parsed document, and wherein the executing

includes instantiating and launching the data forwarding service in the data forwarding device

(pg 7, Col 2 1st ¶, instantiating and running the new MIB objects, for further explanation of

runtime representation refer to pg 6 of section 4.1).

With regard to claims 2 and 18, John disclosed the means for executing including means

for interfacing with hardware and software on the network device (Figure 5, Agent architecture).

With regard to claims 10, 12, 26, and 28, John disclosed means for parsing from the

document runtime parameters corresponding to the service (pg 7 Col 1, last ¶ - value to set) and

instantiating an object corresponding to the service in accordance with the parsed identifier and

the parsed runtime parameters (pg 7, Col 2, 1st ¶).

With regard to claims 13-14, 29-30, 41, John disclosed the network device comprises one

of a router, a switch, and a hub, wherein the network device comprises a packet forwarding

architecture (e.g. a router, see Introduction Col 1).

With regard to claims 15-16 and 31-32, John disclosed preparing a response

corresponding to the executed service and forwarding the response to a remoter requestor of the

service (e.g. requested monitoring information, pg 8, Col 2; also may be interpreted as simply

routing requested data in the case of a router).

With regard to claim 34, John disclosed a network data transfer service that is adapted to

communicate with remote devices for receiving the document (SNMP stack, see for instance

Figure 5 where the manager transfers files to the agent through SNMP PDUs Figure 8).

With regard to claim 35, John disclosed the network data transfer service comprises an

HTTP server (pg 5, last sentence of the 1st ¶).

With regard to claim 39, John disclosed a services storage coupled to the service launcher

that stores a plurality of services (MIB tree of objects), the service launcher being further adapted

to select the service from the stored plurality of services in accordance with the parsed identifier

(instantiate MIB objects, pg 7, Cols 1 and 2).

With regard to claim 44, John disclosed the launched service accesses a MIB on the

network device (Section 4.1, XNAMI MIB).

With regard to claims 45 and 47, John further discloses device APIs for interoperating

with the device hardware and software for executing launched services (java based objects and

associated instances, John pg 6, Cols 1 and 2 of Section 4.1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   Claims 5-8, 11, 21-24, 27, 38, and 48-50 are rejected under 35 U.S.C. 103(a) as being

unpatentable over John et al. (XNAMI – An eXtensible XML-based paradigm for

Network and Application Management Instrumentation; hereinafter John) and Bryan (An

Introduction to the Extensible Markup Language XML).

With regard to claims 48-50, John disclosed a method for causing a network device to

locally perform a service, comprising the steps of:

Identifying the service (e.g. adding a new MIB objects to run) to be performed at a

remote client computer (XNAMI manager issues the SET command), and preparing at the

remote client computer a document written in a markup language (description in XML of the

new object) in accordance with a document definition (XML DTD, pg 4, Col 1), the document

including an identifier of the service (e.g. MIB object name) (see pg 5 Col 2 bullet number 1 and

pg 7 last ¶ Col 1 – discussion of SET commands to add new objects);

Transmitting the document to the network device (XNAMI sends the SET command, see

Figure 8 for contents and pg 8 Col 1, 1st ¶);

Identifying at the network device the document definition corresponding to the

transmitted document ();

Parsing by the network device the transmitted document in accordance with the

corresponding document definition (pg 7 Col 1 last ¶, parsing description of new objects);

and

Executing the service on the network device in accordance with the parsed document (pg

7, Col 2 1st ¶, instantiating and running the new MIB objects, for further explanation of runtime

representation refer to pg 6 of section 4.1).

John disclosed the invention substantially as claimed, however John did not explicitly

recite *identifying* at the network device the *document definition* corresponding to the transmitted

document. Nevertheless the agent in John's system must be able to properly interpret the sent

XML document (description in XML of the new object pg 7 last ¶ Col 1). Further, John

disclosed that the transmitted XML document is defined by a document definition (DTD) (John

pg 4, Col 1). John did not further discuss the well known use of XML and DTDs within XML

instead, motivating the reader to seek out more descriptive teachings outlining DTDs and XML

at the SGML/XML web page (www.oasis-open.org/cover/sgml-xml.html) (John pg 4). In an

introduction to XML document available at the SGML/XML webpage dating back to at least

1997, Bryan disclosed that XML coded text identifies corresponding DTDs either within the

XML document itself (i.e. inline) or alternatively through a link contained within the XML

document pointing to a DTD file (i.e. by reference) (Bryan, pg 6 - #2). It would have been

obvious to one of ordinary skill in the art at the time of the invention to incorporate the XML

DTD identification, as disclosed by Bryan, within the XML file transmitted to the network

device agents in John's system, so that the device agent is able to identify the appropriate DTD

for that XML file (Bryan, pg 6).

With regard to claims 5-8, 21-24, 38, a similar rationale is used for the combination of

John and Bryan as applied to claim 48. As discussed above Bryan disclosed identifying a

document definition through an identifier (document type declaration Bryan, pg 6 - #2), which is

used by the parser (XML processor) to associate the XML file with the corresponding XML

DTD (Bryan pg 6). However neither John nor Bryan disclosed storing a plurality of document

definitions locally. Nevertheless, it was well known in the art at the time of the invention to

store XML DTDs a device needs locally. Thus, it would have been obvious to one of ordinary

skill in the art at the time of the invention to store a plurality of DTDs locally at the agents

disclosed by John, within the combined John and Bryan system, so that DTDs referenced in the

received XML files would be readily available.

With regard to claim 11 and 27, John disclosed instantiating an object corresponding to

the service in accordance with the parsed identifier (pg 7, Col 2, 1st ¶).

6.   Claims 40 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over John et

       al. (XNAMI – An eXtensible XML-based paradigm for Network and Application

       Management Instrumentation; hereinafter John) and in view of Applicant's admission of

the prior art, or alternatively in view of Jaeger et al. (Dynamic Classification in Silicon-

based Forwarding Engine Environments, December 1999, hereinafter "Jaeger").

In considering claim 40, John teaches that the service launcher is adapted to launch the

service using a runtime environment (java based objects and associated instances, John pg 6,

Cols 1 and 2 of Section 4.1). However, John does not disclose the use of the "Oplet Runtime

Environment." Nonetheless, the Oplet Runtime Environment is a well-known environment in

the router environment, as evidenced by both Applicant's admission of prior art (see

specification, p. 9, lines 8-16), and by Jaeger (Abstract). A person having ordinary skill in the art

would have readily recognized the desirability and advantages of using the ORE to manage the

routers in the system taught by John because ORE "supports the creation of services in Java that

are extensible, portable, and easily distributed over the network," (see Jaeger, Conclusion, p.

109). Thus, it would have been obvious to use the Oplet Runtime Environment as the runtime

environment in the system taught by John.

In considering claim 46, John further discloses device APIs for interoperating with the

device hardware and software for executing launched services (java based objects and associated

instances, John pg 6, Cols 1 and 2 of Section 4.1).

7. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over John et

al. (XNAMI – An eXtensible XML-based paradigm for Network and Nilakantan et al.

(U.S. Patent Number 5,541,911; hereinafter Nilakantan).

With regard to claims 42 and 43, John disclosed controlling and monitoring (any variable

in the MIB can be monitored pg 8, Col 2) networking devices (for instance routers, introduction

Col 1) by manipulating the network devices MIB remotely (see inter alia, sections 4.1 and 4.2)

however, John failed to specifically recite changing *how packets are forwarded* through the

packet forwarding switch fabric and monitoring performance indicators of *how packets are*

forwarded through the packet forwarding switch fabric. Nevertheless it was well known in the

art at the time of the invention that MIBs within networking devices (routers) are used to control

how packets are forwarded through the router packet forwarding switch fabric, as evidenced by

Nilakantan. In an analogous art, Nilakantan disclosed manipulating an MIB within a router

through SNMP commands in order to change how packets are forwarded through the packet

forwarding switch fabric (Nilakantan Col 5, line 61- Col 6, line 9). Thus, it would have been

obvious to one of ordinary skill in the art at the time of the invention to extend John's MIB

modification and monitoring system to include an MIB which configures and monitors how

packets are forward within a router, given that John's system was meant to be dynamically

configured to work with any networking device including routers (John introduction) and further

such remote control allows administrators to remotely configure networks (Nilakantan Col 3,

lines 44-53).

1. Claims 1-4, 9-20, 25-37, 39, 41-43, 45, and 47-50 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Humpleman et al. (U.S. Patent No. 6,546,419, hereinafter

"Humpleman"), in view of Duffy ("HP Intros Mgmt. Apps for Router Nets, from

Network World, 1994), and further as supported by Weschler, Jr. (U.S. Patent No.

6,757,720, hereinafter "Weschler").

In considering claim 1, Humpleman discloses a method for controlling a service in a

network device ("device B"), comprising the steps of:

receiving at the network device a document written in accordance with a markup

language ("interface document INTERFACE.XML") and a corresponding document definition

("document type definition INTERFACE.DTD") (col. 15, lines 44-52; col. 18, lines 8-11, "the

XMLRPC command messages are sent to the controlled device B over the network. Upon

receiving said XMLRPC command messages..."), wherein the document describes a service

(col. 18, lines 12-16, "requested services");

Means for parsing by the network device upon completion of the parsing the received

document in accordance with the corresponding document definition and wherein the executing

includes instantiating and launching the data forwarding service in the data forwarding device

(col. 18, lines 11-13, "the controlled application 84 of device B uses the XML parser 74 of

device B to parse and interpret the received XML command messages");

Means for executing the service on the network device in accordance with the parsed

document (col. 18, lines 14-17, "device B then decodes the parser results... to perform requested

services").

However, Humpleman does not disclose that the service, device, and document relate to data forwarding, such that the document causes data forwarding services to be performed. Instead, Humpleman teaches using the above technique for controlling client/server services on a home network.

Nonetheless, it is well known to remotely control and manage not only home devices on a home network, but also routing devices on a routing network, as evidenced by Duffy. Duffy discloses that as far back as 1994, network applications were able to control and manage forwarding services on routers over a network ("from this PC, users can assign addresses, check for duplicate addresses and errors, use point-and-click commands to 'connect' routers... and validate configuration parameters for all routers," ¶ 3; "configuration files stored in a central file server and manually uploaded to the server and management station, and downloaded to AdvanceStack routers," ¶ 4). Furthermore, it is well known to control and manage such devices using XML, as evidenced by Weschler (col. 9, line 67 – col. 10, line 3, "Routers, switches, network ports, and other network devices recognize XML formatted documents embedded in HTTP data transport packets and are configured to handle them appropriately and reliably").

Given the teaching of Duffy and Weschler of using XML to control network routers, a person having ordinary skill in the art would have readily recognized the desirability and advantages of using the particular XML remote management document, definition, and parsing method taught by Humpleman to control network routers using XML, because XML is "well understood, actively developed, and readily transportable through a variety of communications media," (Weschler, col. 9, lines 63-65) and would thus allow comprehensive management of network routers with few development costs.

In considering claim 17, Humpleman discloses a network device ("device B") for locally

performing a data forwarding service in response to a remote request, comprising:

Means for receiving at the network device a document written in accordance with a

markup language ("interface document INTERFACE.XML") and a corresponding document

definition ("document type definition INTERFACE.DTD") (col. 15, lines 44-52; col. 18, lines 8-

11, "the XMLRPC command messages are sent to the controlled device B over the network.

Upon receiving said XMLRPC command messages...");

Means for parsing by the network device the received document in accordance with the

corresponding document definition (col. 18, lines 11-13, "the controlled application 84 of device

B uses the XML parser 74 of device B to parse and interpret the received XML command

messages");

Means for executing the service on the network device upon completion of the parsing in

accordance with the parsed document, wherein the executing includes instantiating and

launching the data forwarding service in the data forwarding device (col. 18, lines 14-17, "device

B then decodes the parser results... to perform requested services").

However, Humpleman does not disclose that the service, device, and document relate to

data forwarding, such that the document causes data forwarding services to be performed.

Instead, Humpleman teaches using the above technique for controlling client/server services on a

home network.

Nonetheless, it is well known to remotely control and manage not only home devices on a

home network, but also routing devices on a routing network, as evidenced by Duffy. Duffy

discloses that as far back as 1994, network applications were able to control and manage

forwarding services on routers over a network ("from this PC, users can assign addresses, check

for duplicate addresses and errors, use point-and-click commands to 'connect' routers... and

validate configuration parameters for all routers," ¶ 3; "configuration files stored in a central file

server and manually uploaded to the server and management station, and downloaded to

AdvanceStack routers," ¶ 4). Furthermore, it is well known to control and manage such devices

using XML, as evidenced by Weschler (col. 9, line 67 – col. 10, line 3, "Routers, switches,

network ports, and other network devices recognize XML formatted documents embedded in

HTTP data transport packets and are configured to handle them appropriately and reliably").

Given the teaching of Duffy and Weschler of using XML to control network routers, a

person having ordinary skill in the art would have readily recognized the desirability and

advantages of using the particular XML remote management document, definition, and parsing

method taught by Humpleman to control network routers using XML, because XML is "well

understood, actively developed, and readily transportable through a variety of communications

media," (Weschler, col. 9, lines 63-65) and would thus allow comprehensive management of

network routers with few development costs.

In considering claims 2 and 18, Humpleman further discloses the means for executing

including means for interfacing with hardware and software on the network device (col. 15, lines

11-15, "in each device 14, applications at the top of the communication stack send and receive

communication messages over the network, and communicate with software layers in the device

stack that locally control the device hardware or service software for the device").

In considering claims 3 and 19, Humpleman further discloses that the markup language is XML ("XML").

In considering claims 4 and 20, Humpleman further discloses that the corresponding document definition is an XML DTD ("DTD").

In considering claims 9 and 25, Humpleman further discloses that the means for parsing include means for parsing from the document an identifier ("method name") corresponding to the service (col. 18, lines 13-17).

In considering claims 10 and 26, Humpleman further discloses that the means for parsing include means for parsing from the document runtime parameters corresponding to the service (col. 12, lines 63-65, "the look-up 56 table provides run-time translation of XML object method calls from Service B into device native language calls for Service A").

In considering claims 11 and 27, Humpleman further discloses means for instantiating an object corresponding to the service in accordance with the parsed identifier (col. 18, lines 19-21, "launch the native function implementations of device B").

In considering claims 12 and 28, Humpleman further discloses means for instantiating an object corresponding to the service in accordance with the parsed identifier and the parsed

runtime parameters (col. 18, lines 19-21, "launch the native function implementations of device

B," col. 12, lines 60-65, "run-time translation of XML object method calls").

In considering claims 13 and 29, both Weschler and Duffy further disclose that the

network can be one of a multitude of devices, including a router.

In considering claims 14 and 30, both Weschler and Duffy further disclose that the

network device comprises a packet forwarding architecture (i.e. a router).

In considering claims 15 and 31, Humpleman further discloses means for preparing a

response corresponding to the executed service (col. 18, lines 21-24, "responses").

In considering claim 16 and 32, Humpleman further discloses means for forwarding the

response to a remote requestor of the service (col. 18, lines 23-24, "responses [are] sent to the

controller device A").

In considering claim 33, Humpleman discloses a network device ("device B") for locally

performing a service in accordance with a received document written in a document markup

language ("interface document INTERFACE.XML"), comprising:

Means for receiving at the network device a document written in accordance with a

markup language ("interface document INTERFACE.XML") and a corresponding document

definition ("document type definition INTERFACE.DTD") (col. 15, lines 44-52; col. 18, lines 8-

11, "the XMLRPC command messages are sent to the controlled device B over the network.

Upon receiving said XMLRPC command messages...");

A parser that is adapted to parse the received document in accordance with the

corresponding document definition to obtain an identifier of the service (col. 18, lines 11-16,

"the controlled application 84 of device B uses the XML parser 74 of device B to parse and

interpret the received XML command messages," wherein the identifier is the "method name");

and

A service launcher that is adapted to launch the service corresponding to the identifier

parsed from the received document wherein the executing includes instantiating and launching

the data forwarding service in the data forwarding device (col. 18, lines 17-21, "device B then

uses the XML... to access and launch the native function implementation of device B...").

However, Humpleman does not disclose that the service, device, and document relate to

data forwarding, such that the document causes data forwarding services to be performed.

Instead, Humpleman teaches using the above technique for controlling client/server services on a

home network.

Nonetheless, for the same reasons already discussed with regard to claims 1 and 17, it

would have been obvious to use the Humpleman XML remote management document,

definition, and parsing method taught by Humpleman to control data forwarding services on a

network.

In considering claim 34, Humpleman further discloses a network data transfer service

that is adapted to communicate with remote devices for receiving the document (col. 16, lines

13-16, "a Home Network Device Web server 86 in each of the devices A and B manages communication between the devices over the network").

In considering claim 35, Humpleman further discloses that the network data transfer service comprises an HTTP server ("Web server 86").

In considering claim 36, Humpleman further discloses that the markup language is XML ("XML").

In considering claim 37, Humpleman further discloses that the corresponding document definition is an XML DTD ("DTD").

In considering claim 39, Humpleman further discloses a services storage coupled to the service launcher that stores a plurality of services, the service launcher being further adapted to select the service from the stored plurality of services in accordance with the parsed identifier (col. 18, lines 9-21, wherein the parsing obtains method call information and a method name, which are used to select from the plurality of services – i.e. handlers – to perform the service).

In considering claim 41, Weschler and Duffy both disclose that the device further comprises a packet forwarding switch fabric (i.e. "routers," and "switches").

In considering claim 42, Weschler further discloses that the launched service causes

changes in how packets are forwarded through the switch fabric (i.e. assigning addresses and

connecting routers causes changes in how packets are forwarded through the switch fabric).

In considering claim 43, Weschler further discloses that the management system can also

monitor performance of packet forwarding in the routers (p. 2, ¶ 2, "Traffic Monitor lets network

managers analyze traffic patterns on all LAN segments and wide-area links from a single

Windows PC or Unix workstation").

In considering claim 45, Humpleman further discloses device APIs for interoperating

with the device hardware and software for executing launched services (col. 14, lines 20-25,

"API interface").

In considering claim 47, Humpleman further discloses device APIs for interoperating

with the device hardware and software for executing launched services (col. 14, lines 20-25,

"API interface").

In considering claim 48, Humpleman discloses a method for causing a network device to

locally perform a service, comprising the steps of:

Identifying the service to be performed at a remote client computer, and preparing at the

remote client computer a document written in a markup language in accordance with a document

definition, the document including an identifier of the service (col. 18, lines 3-10, wherein

"device A" generates the XML document to send a command message to device B, the document

inherently including an identifier of the service – see Example 1, line 45, wherein

"DVCR1.record" identifies the service);

Transmitting the document to the network device (col. 18, lines 8-9);

Identifying at the network device the document definition corresponding to the

transmitted document (col. 18, lines 10-16; col. 15, lines 44-52, wherein the DTD file

corresponding to the document is also received and identified at the network device);

Parsing by the network device the transmitted document in accordance with the

corresponding document definition (col. 18, lines 10-16, "parse and interpret the received XML

command messages"); and

Executing the service on the network device upon completion of the parsing in

accordance with the parsed document wherein the executing includes instantiating and launching

the data forwarding service in the data forwarding device (col. 18, lines 12-17, "perform

requested services").

However, Humpleman does not disclose that the service, device, and document are

related to a data forwarding service. Nonetheless, for the same reasons already discussed with

regard to claims 1 and 17, it would have been obvious to use the Humpleman XML remote

management document, definition, and parsing method taught by Humpleman to control data

forwarding services on a network.

In considering claim 49, Humpleman further discloses that the markup language is XML

("XML").

In considering claim 50, Humpleman further discloses that the corresponding document definition is an XML DTD ("DTD").

2. Claims 5-8, 21-24, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humpleman, in view of Weschler and Duffy, and further in view of Gessner (U.S. Patent Publication No. 2002/0032709, filed on Sep. 29, 1998).

In considering claims 5, 7, 21, and 23, these claims all recite retrieving the corresponding document definition from a plurality of document definitions in accordance with an identifier in the received document. Humpleman teaches a document definition corresponding to a document, but remains silent regarding how the document definition is selected or retrieved. Nonetheless, selection at run time of document definitions that correspond to a selected markup language document is well known, as evidenced by Gessner. Gessner discloses a system that uses DTDs and their corresponding documents, wherein the DTDs "may be locally stored [or] may be stored remotely on server systems and delivered at and during run time of a browser, etc. to facilitate dynamic replacement of particular grammars and to further facilitate the rendering of content based thereon." See ¶ [0041]. Thus, a person having ordinary skill in the art would have readily recognized the desirability and advantages of selecting the corresponding DTDs in the system taught by Humpleman, Weschler, and Duffy according to the id contained in the documents, to facilitate dynamic creation of the XML file, thereby further enhancing the dynamic nature of the control and command system taught by Humpleman, Weschler, and Duffy (see Humpleman, col. 2, lines 39-41). Therefore, it would have been obvious to use the dynamic

DTD selection taught by Gessner in the dynamic control and command system taught by

Humpleman, Weschler, and Duffy.

In considering claims 6, 8, 22, and 24, Gessner further discloses that the document

definitions are provided locally ([0041], "DTD components may be locally stored").

In considering claim 38, claim 38 contains the same limitations as claims 5, 7, 21, and 23,

but adds the feature that the device further comprises a document definition storage that stores

the plurality of definitions from which selection is made. This storage feature is further taught

by Gessner in ¶ [0041], which recites "DTD components may be locally stored."

3. Claims 40 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over

   Humpleman, Weschler, and Duffy, in view of Applicant's admission of the prior art, or

   alternatively in view of Jaeger et al. (Dynamic Classification in Silicon-based Forwarding

   Engine Environments, December 1999, hereinafter "Jaeger").

   In considering claim 40, Humpleman teaches that the service launcher is adapted to

launch the service using a runtime environment (col. 18, lines 10-21 describe that the service

launcher generates native function implementations from the XML document, and col. 12, lines

55-65 describe that such translation occurs at run-time). However, Humpleman does not

disclose the use of the "Oplet Runtime Environment." Nonetheless, the Oplet Runtime

Environment is a well-known environment in the router environment, as evidenced by both

Applicant's admission of prior art (see specification, p. 9, lines 8-16), and by Jaeger (Abstract).

A person having ordinary skill in the art would have readily recognized the desirability and

advantages of using the ORE to manage the routers in the system taught by Humpleman,

Weschler, and Duffy because ORE "supports the creation of services in Java that are extensible,

portable, and easily distributed over the network," (see Jaeger, Conclusion, p. 109). Thus, it

would have been obvious to use the Oplet Runtime Environment as the runtime environment in

the system taught by Humpleman, Weschler, and Duffy.

In considering claim 46, Humpleman further discloses device APIs for interoperating

with the device hardware and software for executing launched services (col. 14, lines 20-25,

"API interface").

4. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Humpleman,

   Weschler, and Duffy, in view of Dobbins et al. (U.S. Patent No. 5,951,649, hereinafter

   "Dobbins").

In considering claim 44, although the system taught by Humpleman, Weschler, and

Duffy discloses substantial features of the claimed invention, it fails to disclose that launched

service accesses a MIB on the network device. Nonetheless, Duffy discloses changing router

configuration by altering 'connections' between routers. Furthermore, as shown by Dobbins, it

is well known that one way to represent connections between routers and other forwarding

functions is through a MIB (col. 6, lines 41-55). Thus, given this knowledge, it would have been

obvious to alter the router connections in the system taught by Humpleman, Weschler, and Duffy

by altering a MIB, because a MIB structure can be easily changed and understood by an

administrator (see Dobbins, col. 6, lines 52-55).

Response to Arguments

8.   In response to Applicant's request for reconsideration filed on 8/29/05, the following

factual arguments are noted:

a.   The combination of Humpleman,, Duffy, and Weschler is improper.

b.   Humpleman does not disclose a data forwarding device or service.

c.   Humpleman failed to disclose various new limitations.

In considering (a), Examiner respectfully disagrees with Applicant's argument. The

combination of Humpleman, Duffy, and Weschler is clearly proper. Applicant is reminded that

obviousness can be established by combining or modifying the teachings of the prior art to

produce the claimed invention where there is some teaching, suggestion, or motivation to do so

found either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In

re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In the instant case, a clear

motivation was set forth directly from the references themselves.

In considering (b), Examiner respectfully disagrees with Applicant's argument. Such an

argument is completely irrelevant given that Humpleman was not even cited to teach such. It is

clear that Applicant has interpreted a *data forwarding device* to be only a router or equivalent

thereof. The terms "data forwarding device" and "data forwarding service" are extremely broad

and read on virtually any device which outputs information in some form. If Applicant intends

to claim only a routers then the Applicant should make an appropriate amendment limiting the

independent claims to only routers.

In considering (c), Examiner respectfully disagrees with Applicant's argument. Based on

Applicant's arguments and a discussion with Applicant in an interview 9/13/05 Applicant

contends that the XML device interface file sent from a controlled device (i.e. Device B in

Humpleman Col 18, lines 3-4) to a controlling device (i.e. Device A in Humpleman Col 18, lines

3-4) is parsed and invokes a service in device A to control device B through RPC calls. The

Examiner respectfully disagrees with this interpretation of the current rejection set forth. Rather

the current rejection set forth by the Examiner shows the parsed file of Applicant's claimed

invention to be the XMLRPC command message of Humpleman. Wherein the controlling

device A sends an XML message (XMLRPC) commanding the controlled device B to instantiate

and launch a service after parsing the XML message command (Col 18, lines 1-17).

Conclusion

The previous grounds of rejection set forth on 4/27/05 stands as set forth above. A new

grounds of rejection has also been added. All claims stand rejected with no allowable subject

matter identified. It is noted that Applicant's claimed invention is still extremely broad. In

considering the independent claims a simple web browser downloading, parsing, and displaying

an XML web document would read on the independent claims with the broad terms "data forwarding" used to describe the device and service. The cited and applied John reference substantially embraces the sprit and scope of Applicant's claimed invention and disclosure.
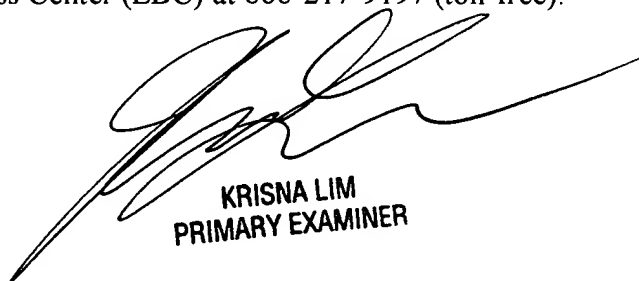
9. The prior art made of record, in PTO-892 form, and not relied upon is considered pertinent to applicant's disclosure.

10. This office action is made **NON-FINAL.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Reilly whose telephone number is 571-272-4228. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

9/14/2005

KRISNA LIM
PRIMARY EXAMINER